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**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

Application Number: 10/731,604  
Filing Date: December 08, 2003  
Appellant(s): KARIMISETTY ET AL.

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Sean F. Parmenter  
For Appellant

**EXAMINER'S ANSWER**

This is in response to the appeal brief filed 12/21/2009 appealing from the Office action mailed 2/13/2009.

**(1) Real Party in Interest**

A statement identifying by name the real party in interest is contained in the brief.

**(2) Related Appeals and Interferences**

A statement identifying the related appeals and interferences which will directly affect or be directly affected by or have a bearing on the decision in the pending appeal is contained in the brief.

**(3) Status of Claims**

The statement of the status of claims contained in the brief is correct.

**(4) Status of Amendments After Final**

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

**(5) Summary of Claimed Subject Matter**

The summary of claimed subject matter contained in the brief is correct.

**(6) Grounds of Rejection to be Reviewed on Appeal**

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

**(7) Claims Appendix**

The copy of the appealed claims contained in the Appendix to the brief is correct.

**(8) Evidence Relied Upon**

20050091188	PAL et al.	4-2005
7,346,598	ARORA et al.	3-2008
6,856,970	CAMPBELL et al.	2-2005

Bertino et al., Integrating XML and Databases, IEEE Internet Computing, July-August 2001, pages 84-88.

B. Adelberg, NoDoSE--a tool for semi-automatically extracting semistructured data from text documents, in: Proceedings of 1998 ACM SIGMOD International Conference on Management of Data, Seattle, Washington, USA, 1998, pp. 283-294.

**(9) Grounds of Rejection**

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-3, 5, 11-12, 14, 16-17 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bertino et al. ('Bertino' hereinafter) ("Integrating XML and Databases", IEEE Internet Computing, July-August 2001, pages 84-88) in view of Pal et

al. ('Pal' hereinafter) (Publication Number 2005/0091188) and further in view of Adelberg (B. Adelberg, "NoDoSE--a tool for semi-automatically extracting semistructured data from text documents", in: Proceedings of 1998 ACM SIGMOD International Conference on Management of Data, Seattle, Washington, USA, 1998, pp. 283-294).

As per claim 1, Bertino teaches

A method of searching unstructured data stored in a database, the method comprising: (see page 84, first column, paragraphs 1-2)  
storing unstructured data in a column of a database table in character large object (CLOB) format; (document stored in database in Clob, page 86, first column, third paragraph)

unstructured data , stored in CLOB format as query elements, and obtaining information from the unstructured data stored in CLOB format for the corresponding element. (query unstructured documents, page 86, second column, second paragraph)

Bertino does not explicitly indicate "generating a plurality of database tables representing an intermediate index between each query element and at least one of the one or more elements identified as query elements in the unstructured data stored in CLOB format; generating one or more queries on the unstructured data stored in CLOB format using the query elements; translating a query element associated with a query on the unstructured data based on the plurality of tables to a corresponding element in the unstructured data stored in CLOB format".

However, Pal discloses "generating a plurality of database tables representing an intermediate index between each query element and at least one of the one or more elements identified as query elements in the unstructured data stored in CLOB format;" (create secondary XML indexes, paragraph [0048], lines 1-4; paragraph [0050], lines 1-6) "generating one or more queries on the unstructured data stored in CLOB format using the query elements; translating a query element associated with a query on the unstructured data based on the plurality of tables to a corresponding element in the unstructured data stored in CLOB format" (queries using secondary index path, paragraph [0051], lines 3-10).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Bertino and Pal because using the steps of "generating a plurality of database tables representing an intermediate index between each query element and at least one of the one or more elements identified as query elements in the unstructured data stored in CLOB format; generating one or more queries on the unstructured data stored in CLOB format using the query elements; translating a query element associated with a query on the unstructured data based on the plurality of tables to a corresponding element in the unstructured data stored in CLOB format" would have given those skilled in the art the tools to improve the invention by allowing fast and efficient searching of large objects in XML coded information. This gives the user the advantage of more efficient use of limited resources.

Neither Bertino nor Pal generating a first graphical user interface and displaying the first graphical user interface on a display device, the first graphical user interface

configured to enable users to designate elements in the data as query elements; receiving user input via the first graphical user interface identifying one or more elements in the data..

However, Adelberg discloses generating a first graphical user interface and displaying the first graphical user interface on a display device, the first graphical user interface configured to enable users to designate elements in the unstructured data as query elements (gui which allows the user to hierarchically decompose the document, page 5, section 202, first paragraph); receiving user input via the first graphical user interface identifying one or more elements in the data (decompose document using gui, page 5, section 202, first paragraph).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Bertino, Pal and Adelberg because using the steps of generating a first graphical user interface and displaying the first graphical user interface on a display device, the first graphical user interface configured to enable users to designate elements in the unstructured data as query elements; receiving user input via the first graphical user interface identifying one or more elements in the data would have given those skilled in the art the tools to improve the invention by bringing new data such as mail, code, documentation and other text within the reach of general query tools. This gives the user the advantage of being able to perform searches and indexing on data items which are not normally searchable.

As per claim 2, Bertino teaches

the one or more queries specify at least one value and an operation that is to be performed on a user-identified element in the unstructured data. (page 85, first column, second paragraph)

As per claim 3, Bertino teaches

the one or more queries further include a start date and an end date. (query, page 86, first column, second paragraph; dates included in XML data, figure 1)

As per claim 5, Bertino teaches

the unstructured data comprises a well-formed XML document stored within a column of a database table. (page 86, first column, second paragraph)

As per claims 11-12 and 14,

These claims are rejected on grounds corresponding to the arguments given above for rejected claims 1-2 and 5 and are similarly rejected.

As per claims 16-17 and 19,

These claims are rejected on grounds corresponding to the arguments given above for rejected claims 1-2 and 5 and are similarly rejected.

Claims 6-7, 15 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bertino et al. ('Bertino' hereinafter) ("Integrating XML and Databases", IEEE Internet Computing, July-August 2001, pages 84-88) in view of Pal et al. ('Pal' hereinafter) (Publication Number 2005/0091188) and further in view of Adelberg (B. Adelberg, "NoDoSE--a tool for semi-automatically extracting semistructured data from text documents", in: Proceedings of 1998 ACM SIGMOD International Conference on Management of Data, Seattle, Washington, USA, 1998, pp. 283-294) and further in view of Arora et al. ('Arora' hereinafter) (Patent Number 7,346,598).

As per claim 6,

Nether Bertino, Pal nor Adelberg explicitly indicate "XML fields of the unstructured data are filled with transaction data intercepted from a database transaction prior to committing the transaction based on a predefined mapping to multiple data sources".

However, Arora discloses "XML fields of the unstructured data are filled with transaction data intercepted from a database transaction prior to committing the transaction based on a predefined mapping to multiple data sources" (column 7, lines 22-34).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Bertino, Pal, Adelberg and Arora because using the steps of "XML fields of the unstructured data are filled with transaction data intercepted

from a database transaction prior to committing the transaction based on a predefined mapping to multiple data sources" would have given those skilled in the art the tools to improve the invention by using XML as a means of simplifying the transferring and validating data and content. This gives the user the advantage of being able to share data across a myriad of different platforms.

As per claim 7,

Nether Bertino, Pal nor Adelberg explicitly indicate "the multiple data sources comprise multiple tables of a database".

However, Arora discloses "the multiple data sources comprise multiple tables of a database" (column 9, lines 26-31).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Bertino, Pal, Adelberg and Arora because using the steps of "the multiple data sources comprise multiple tables of a database" would have given those skilled in the art the tools to improve the invention by using XML as a means of simplifying the transferring and validating data and content. This gives the user the advantage of being able to share data across a myriad of different platforms.

As per claims 15 and 20,

These claims are respectfully rejected on grounds corresponding to the arguments given above for rejected claim 6 and are similarly rejected.

Claims 9 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bertino et al. ('Bertino' hereinafter) ("Integrating XML and Databases", IEEE Internet Computing, July-August 2001, pages 84-88) in view of Pal et al. ('Pal' hereinafter) (Publication Number 2005/0091188) and further in view of Arora et al. ('Arora' hereinafter) (Patent Number 7,346,598) and further in view of Adelberg (B. Adelberg, "NoDoSE--a tool for semi-automatically extracting semistructured data from text documents", in: Proceedings of 1998 ACM SIGMOD International Conference on Management of Data, Seattle, Washington, USA, 1998, pp. 283-294).

As per claim 9, Bertino teaches

A method of searching XML data stored in a column of a database table in character large object (CLOB) format, the method comprising: (see page 84, first column, paragraphs 1-2)

storing the XML data in the column of the database table in CLOB format, wherein the XML data comprises a first plurality of XML elements that conform to a first data type definition (DTD); (document stored in database in Clob, page 86, first column, third paragraph)

XML elements in the first and second plurality of XML elements; and obtaining information from the unstructured data stored in CLOB format for the corresponding XML element. (query unstructured documents, page 86, second column, second paragraph)

Bertino does not explicitly indicate "generating a plurality of database tables representing an intermediate index between each query element and at least one of the one or more elements in the first" "plurality of XML elements identified as query elements in the unstructured data stored in CLOB format; generating one or more queries on the unstructured data stored in CLOB format using the query elements; translating a query element associated with a query on the unstructured data based on the plurality of tables to a corresponding element in the unstructured data stored in CLOB format".

However, Pal discloses "generating a plurality of database tables representing an intermediate index between each query element and at least one of the one or more elements in the first" "plurality of XML elements identified as query elements in the unstructured data stored in CLOB format;" (create secondary XML indexes, paragraph [0048], lines 1-4; paragraph [0050], lines 1-6) "generating one or more queries on the unstructured data stored in CLOB format using the query elements; translating a query element associated with a query on the unstructured data based on the plurality of tables to a corresponding element in the unstructured data stored in CLOB format" (queries using secondary index path, paragraph [0051], lines 3-10).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Bertino and Pal because using the steps of "generating a plurality of database tables representing an intermediate index between each query element and at least one of the one or more elements in the first" "plurality of XML elements identified as query elements in the unstructured data stored in CLOB format;

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generating one or more queries on the unstructured data stored in CLOB format using the query elements; translating a query element associated with a query on the unstructured data based on the plurality of tables to a corresponding element in the unstructured data stored in CLOB format" would have given those skilled in the art the tools to improve the invention by allowing fast and efficient searching of large objects in XML coded information. This gives the user the advantage of more efficient use of limited resources.

Neither Bertino nor Pal explicitly indicate "and a second plurality of XML elements that conform to a second DTD", "and second plurality of XML elements".

However, Arora discloses "and a second plurality of XML elements that conform to a second DTD", "and second plurality of XML elements" (XML database schemas from multiple data providers, column 7, lines 22-31).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Bertino, Pal and Arora because using the steps of "and a second plurality of XML elements that conform to a second DTD", "and second plurality of XML elements" would have given those skilled in the art the tools to improve the invention by using XML as a means of simplifying the transferring and validating data and content. This gives the user the advantage of being able to share data across a myriad of different platforms.

Neither Bertino, Pal nor Arora generating a first graphical user interface and displaying the first graphical user interface on a display device, the first graphical user interface configured to enable users to designate elements as query elements; receive

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user input via the first graphical user interface identifying one or more elements in the data.

However, Adelberg discloses generating a first graphical user interface and displaying the first graphical user interface on a display device, the first graphical user interface configured to enable users to designate elements as query elements (gui which allows the user to hierarchically decompose the document, page 5, section 202, first paragraph); receive user input via the first graphical user interface identifying one or more elements in the data (decompose document using gui, page 5, section 202, first paragraph).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Bertino, Pal, Arora and Adelberg because using the steps of generating a first graphical user interface and displaying the first graphical user interface on a display device, the first graphical user interface configured to enable users to designate elements as query elements and receive user input via the first graphical user interface identifying one or more elements in the data would have given those skilled in the art the tools to improve the invention by bringing new data such as mail, code, documentation and other text within the reach of general query tools. This gives the user the advantage of being able to perform searches and indexing on data items which are not normally searchable.

As per claim 10,

Nether Bertino nor Pal explicitly indicate "the first and second DTDs include first and second XML elements, respectively, that share a common name but represent different types of data; and wherein translating a query element associated with a query on the unstructured data based on the plurality of tables to a corresponding element in the unstructured data stored in CLOB format comprises translating a first query element that represents the first XML element and not the second XML element and a second query element that represents the second XML element and not the first XML element".

However, Arora discloses "the first and second DTDs include first and second XML elements, respectively, that share a common name but represent different types of data; and wherein translating a query element associated with a query on the unstructured data based on the plurality of tables to a corresponding element in the unstructured data stored in CLOB format comprises translating a first query element that represents the first XML element and not the second XML element and a second query element that represents the second XML element and not the first XML element" (column 8, lines 42-58; column 9, lines 19-31).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Bertino, Pal and Arora because using the steps of "the first and second DTDs include first and second XML elements, respectively, that share a common name but represent different types of data; and wherein translating a query element associated with a query on the unstructured data based on the plurality of tables to a corresponding element in the unstructured data stored in CLOB format comprises translating a first query element that represents the first XML element and

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not the second XML element and a second query element that represents the second XML element and not the first XML element" would have given those skilled in the art the tools to improve the invention by using XML as a means of simplifying the transferring and validating data and content. This gives the user the advantage of being able to share data across a myriad of different platforms.

Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bertino et al. ('Bertino' hereinafter) ("Integrating XML and Databases", IEEE Internet Computing, July-August 2001, pages 84-88) in view of Pal et al. ('Pal' hereinafter) (Publication Number 2005/0091188) and further in view of Adelberg (B. Adelberg, "NoDoSE--a tool for semi-automatically extracting semistructured data from text documents", in: Proceedings of 1998 ACM SIGMOD International Conference on Management of Data, Seattle, Washington, USA, 1998, pp. 283-294) and further in view of Campbell et al. ('Campbell' hereinafter) (Patent Number 6,856,970).

As per claim 8, Bertino teaches  
the unstructured data (page 86, first column, second paragraph)  
Neither Bertino, Pal nor Adelberg explicitly indicate "is part of an electronic record stored in a common repository of electronic records that provides an audit trail that cannot be altered or disabled by users of the system".

However, Campbell discloses "is part of an electronic record stored in a common repository of electronic records that provides an audit trail that cannot be altered or disabled by users of the system" (column 24, lines 57-65).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Bertino, Pal, Adelberg and Campbell because using the steps of "is part of an electronic record stored in a common repository of electronic records that provides an audit trail that cannot be altered or disabled by users of the system" would have given those skilled in the art the tools to improve the invention by ensuring that the data can be rebuilt from any point in time by tracking changes. This gives the user the advantage of being ensured that the data cannot be changed by mistake and not be recovered.

#### **(10) Response to Argument**

With respect to the outstanding 35 USC 103 rejection of claim 1, and all claims which depend therefrom, Appellant argues that Adelberg does not teach "generating a first graphical user interface and displaying the first graphical user interface on a display device, the first graphical user interface configured to enable users to designate elements in the unstructured data as query elements" or "receiving user input via the first graphical user interface identifying one or more elements in the unstructured data stored in CLOB format as query elements". Appellant further argues that Adelberg

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discloses a GUI tool that enables a user to create a structure for otherwise unstructured data using the GUI, the cited references do not teach designating one or more of the newly created structure elements as query elements. It is respectfully submitted that the following citations are critical to understanding how Adelberg teaches these limitations:

"The first step in decomposing a document is indicating its top level structure, in this case a record of type SimulationRun. Next, we add each of its three fields (timestamp, node\_params, and node\_results) by selecting the relevant portion of the text in the document window and click on the add structure button in the tool bar (Figure 4). The type, type name, and label of each field can be entered using the controls on the bottom portion of the window. Since node\_params and node\_results fields are complex types (lists), the decomposition process must continue." (Adelberg, section 2.2, second paragraph)

"Suppose the user chooses to decompose the list of node results next. Double-clicking on that node in the tree view panel will display only the portion of the document mapped to the node\_results list. The user then selects the text of the first element of the list (the first two lines) and adds this as a structure." (Adelberg, section 2.2, beginning of third paragraph).

"For users who need to perform more complex operations on the data, NoDoSE can generate a schema file and a load file for use by a load utility provided by a third party DBMS. At the present, the generated schema file is ODL-like and the load file is a generic format of our design. Additional formats can be added either by using the report generator or by coding an additional report component." (Adelberg, section 2.3, end of first paragraph)

In the first two citations above, from section 2.2 of Adelberg, the document is decomposed by identifying portions of text within the document and storing information about the structure of the documents. This model is further defined in section 3.1 of Adelberg. After the decomposition process is completed for a document, a schema file which can be generated by NoDoSE can be used to load the data into a third party DBMS. This means that structure which is built by the user during the decomposition process is used to pull the text from the user-selected portions of the document into a

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database management system such as a relational database. As is commonly known in the art, these database management systems allow for querying of their tables using common query tools such as the "SELECT" statement in SQL. Since the GUI in Adelberg is used to define the nodes or elements which are then loaded into the DBMS, it is respectfully submitted that the cited reference does in fact teach "generating a first graphical user interface and displaying the first graphical user interface on a display device, the first graphical user interface configured to enable users to designate elements in the unstructured data as query elements" and "receiving user input via the first graphical user interface identifying one or more elements in the unstructured data stored in CLOB format as query elements".

Appellant further argues that Adelberg's GUI that allows a user to hierarchically decompose a document could not be used to create indexed query elements as recited in claim 1. However, Adelberg states that "users who need to perform more complex operations on the data" can have the data loaded into a DBMS using a generated schema (section 2.3), and defines the decomposition of the document using the GUI (section 2.2, second and third paragraphs). This disclosure means that the GUI is used to create the query elements since the schema and load file will populate the DBMS for the users needing complex operations on the data such as indexing of query elements. Therefore it is respectfully submitted that the limitations are taught by a Adelberg.

Conclusion:

The references cited disclose the claimed methods, computer-readable storage media and system for searching unstructured data stored in a database. In light of the forgoing arguments, the examiner respectfully requests the honorable Board of Appeals and Interferences to sustain the rejection.

**(11) Related Proceeding(s) Appendix**

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

Respectfully submitted,

/Jay A Morrison/

Examiner, Art Unit 2168

April 4, 2010

Conferees:

/Tim T. Vo/

Supervisory Patent Examiner, Art Unit 2168

/Luke S. Wassum/

Luke Wassum, Patent Examiner AU 2167

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